IN THE CLAIMS:

Please cancel Claim 15 without prejudice or disclaimer of subject matter, and amend the claims as shown below. The claims, as pending in the subject application, read as follows:

1. (Currently Amended) A sensing apparatus comprising:

a transmission line for propagating an electromagnetic wave therethrough; and

a detection unit for detecting a propagation state of the electromagnetic wave at an arbitrary location on the transmission line,

wherein an interaction between an object disposed in the vicinity of the transmission line and the electromagnetic wave is detected, and

wherein the transmission line has a resonance structure for confining the propagating electromagnetic wave, and the resonance structure comprises a distributed reflective region having a periodic structure.

2. (Previously Presented) The sensing apparatus according to claim 1, further comprising an electromagnetic wave generating unit.

3. (Previously Presented) The sensing apparatus according to claim 2, wherein the transmission line and the electromagnetic wave generating unit are disposed on a same substrate.

4. (Previously Presented) The sensing apparatus according to claim 2, wherein the electromagnetic wave generating unit is of a current-injection type.

5. (Previously Presented) The sensing apparatus according to claim 1, wherein the detection unit comprises a thin-line-shaped probe.

6. (Previously Presented) The sensing apparatus according to claim 1, wherein the detection unit comprises a probe with a tip of a diameter which is not more than 1/10 of a wavelength of a propagating electromagnetic wave.

7. (Previously Presented) The sensing apparatus according to claim 1, wherein the detection unit detects the propagation state on the transmission line at a plurality of locations.

8. (Previously Presented) The sensing apparatus according to claim 7, wherein the detection unit detects the propagation state of the electromagnetic wave at the plurality of locations by changing a relative positional relationship between the detection unit and the transmission line by scanning.

9. (Previously Presented) The sensing apparatus according to claim 7, wherein the detection unit that detects the propagation state of the electromagnetic wave at the plurality of locations comprises an electrooptic crystal.

10. (Cancelled)

11. (Original) A sensing apparatus according to claim 1, wherein the electromagnetic wave has a frequency within the range of 30 GHz to 30 THz.

12. (Currently Amended) A sensing apparatus comprising:

a transmission line for propagating an electromagnetic wave therethrough;

a detection unit for detecting a propagation state of the electromagnetic wave through the transmission line; and

a flow path disposed in the vicinity of the transmission line, for allowing an object to move therein,

wherein an interaction between the object and the electromagnetic wave is detected, and

wherein the transmission line has a resonance structure for confining a propagating electromagnetic wave, and the resonance structure comprises a reflective region having a periodic structure.

13. (Previously Presented) The sensing apparatus according to claim 12, wherein the detection unit is provided at a plurality of locations.

14. (Original) The sensing apparatus according to claim 12, wherein the electromagnetic wave has a frequency within the range of 30 GHz to 30 THz.

15. (Cancelled)